

Claims:

1. A system for manufacturing a data storage device comprising:  
a placement device to physically stabilize a hard drive head device for electrical bonding  
of said head device to a hard drive arm component, wherein  
said placement device utilizes sub-ambient pressure to maintain the position of said head  
device with respect to said arm component for said electrical bonding.
2. The system of claim 1, wherein said hard drive head device is a hard disk drive magnetic  
head.
3. The system of claim 2, wherein said hard drive arm component is a suspension tongue.
4. The system of claim 1, wherein said electrical bonding is ball bonding.
5. The system of claim 4, wherein said electrical bonding is a type selected from the group  
consisting of gold ball bonding (GBB), solder bump bonding (SBB), ultrasonic welding, and  
stitch bonding.
6. The system of claim 1, wherein said placement device includes a first vacuum tube  
structure for providing said sub-ambient pressure to affix said first vacuum tube structure to said  
head device.

7. The system of claim 6, further comprising an alignment pin protruding from said placement device.
8. The system of claim 7, wherein said alignment pin is capable of being inserted into a suspension tooling hole for ensuring said proper alignment.
9. The system of claim 7, further comprising a second vacuum tube structure for providing sub-ambient pressure, wherein said first vacuum tube structure vacuum-couples to said head device and said second vacuum tube structure vacuum-couples to a suspension load beam attached to said arm component.
10. The system of claim 9, wherein the first vacuum tube structure includes a step structure mateable to an edge of the head device.
11. The system of claim 10, wherein said step structure is mateable to one or more edges of said head device.
12. The system of claim 11, wherein said step structure is an integral structure of the first vacuum tube.
13. The system of claim 11, wherein said step structure is an external structure.

14. The system of claim 9, wherein said first vacuum tube structure is a material selected from the group consisting of Stainless Steel, Copper, Aluminum Oxide, Polyimide, and Ceramic.

15. The system of claim 9, wherein said second vacuum tube structure is a material selected from the group consisting of Stainless Steel, Copper, Aluminum Oxide, Polyimide, and Ceramic.

16. A method for manufacturing a data storage device comprising:  
physically stabilizing, by a placement device, a hard drive head device for electrical bonding of said head device to a hard drive arm component and  
utilizing, by said placement device, sub-ambient pressure to maintain the position of said head device with respect to said arm component for said electrical bonding.

17. The method of claim 16, wherein said hard drive head device is a hard disk drive magnetic head.

18. The method of claim 17, wherein said hard drive arm component is a suspension tongue.

19. The method of claim 16, wherein said electrical bonding is ball bonding.

20. The method of claim 19, wherein said electrical bonding is a type selected from the group consisting of gold ball bonding (GBB), solder bump bonding (SBB), ultrasonic welding, and stitch bonding.

21. The method of claim 16, wherein said placement device includes a first vacuum tube structure for providing said sub-ambient pressure to affix said first vacuum tube structure to said head device.
22. The method of claim 21, further comprising:  
providing an alignment pin protruding from said placement device.
23. The method of claim 22, wherein said alignment pin is capable of being inserted into a suspension tooling hole for ensuring said proper alignment.
24. The method of claim 22, further comprising:  
providing sub-ambient pressure, by a second vacuum tube;  
vacuum-coupling said first vacuum tube structure to said head device; and  
vacuum-coupling said second vacuum tube structure to a suspension load beam attached to said arm component.
25. The method of claim 24, wherein the first vacuum tube structure includes a step structure mateable to an edge of the head device.
26. The method of claim 25, wherein said step structure is mateable to at least the leading edge of said head device.

27. The method of claim 24, wherein said first vacuum tube structure is a material selected from the group consisting of Stainless Steel, Copper, Aluminum Oxide, Polyimide, and Ceramic.

28. The method of claim 24, wherein said second vacuum tube structure is a material selected from the group consisting of Stainless Steel, Copper, Aluminum Oxide, Polyimide, and Ceramic.